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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| EXAMINER |
|---|
| NGUYEN, LE V |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2174 | |

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/757,930 | ERTEN ET AL. | |
| | Examiner | Art Unit | |
| | Le Nguyen | 2174 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-28 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-28 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Objections*

1. Claims 13 and 24 are objected to because of the following informalities: the phrase "characteristics that distinguish the pointing device from other objects in the data ... are determined based analysis" appears to contain a grammatical error. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the pointing device" in line 1 of page 30. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the mapping" in line 1 of page 31. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "the display" in line 1 of page 32. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 8 and 10-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Filo et al. ("Filo", US 6,215,498 B1).

As per claim 1, Filo teaches a system for interacting with displays and all devices that use such displays comprised of:

a) a display (col. 7, line 1 and lines 40-45);

b) a sensor or camera (col. 9, lines 30-38);

c) a pointing device that can be registered b the sensor or camera (col. 7, lines 19-22 and lines 51-54);

d) a method for detecting the pointing device (col. 7, lines 19-20); and

e) a method for establishing the mapping between the position of the pointing device and a corresponding location on the display (col. 7, lines 17-19).

As per claim 2, Filo teaches a system for interacting with displays and all devices that use such displays wherein the sensor or camera, in addition to registering the image of the pointing object, can also register at least one of (i) the image of the display and (ii) the reflection or effect that the pointing device can produce on the display (col. 11, lines 32-55; col. 13, lines 34-35 and lines 10-13, 15-16; col. 9, lines 49-50).

As per claims 3 and 8, Filo teaches a system for interacting with displays and all devices that use such displays which commands the positioning of a pointing icon on the display and wherein the pointing icon on the display can be registered by the sensor or camera (col. 9, line 56 through col. 10, line 22; col. 9, lines 48-50; col. 13, lines 32-34; col. 11, lines 32-36 and lines 40-43).

As per claim 4, Filo teaches a system for interacting with displays and all devices that use such displays wherein the pointing device is a part of the human body such as a hand or a finger, or an ornament or device worn on the human body such as a glove or thimble (figs. 2(A-B), 4, 5(A-B) and 11).

As per claims 5 and 6, Filo teaches a system for interacting with displays and all devices that use such displays wherein the pointing device is used to point to regions of the display by way of changing its position, attitude, or presentation (col. 9, line 61 through col. 10, line 3).

As per claim 10, Filo teaches a system for interacting with displays and all devices which also includes at least one of the following (col. 9, line 49 through col. 10, line 22; col. 7, lines 40-49; col. 8, lines 10-21, 30-37; col. 11, lines 61-63; col. 13, lines 17-24; col. 14, lines 26-32):

a) a method for selecting or highlighting a specific item or icon on the display;

b) a method for activating a specific process, program, or menu item represented on the display; and

c) a method for writing, scribing, drawing, highlighting, annotating, or otherwise producing marks on the display.

As per claim 11, Filo teaches a method for detecting the pointing device comprising:

a) retrieval of data or image from a sensor or camera (col. 13, lines 57-59); and

b) analysis of the data or image from the sensor or camera to locate the pointing device in the data, or locating at least a set of the picture elements in the image that comprise the rendition of the pointing device.(col. 14, lines 6-7).

As per claim 12, Filo teaches a method for detecting the pointing device wherein the characteristics that distinguish the pointing device from other objects in the data from the sensor or the image from the camera are known a priori (col. 19, lines 13-67).

As per claims 13 and 14, Filo teaches a method for detecting the pointing device wherein the characteristics that distinguish the pointing device from other objects in the data from the sensor or the image from the camera are determined based on analysis of at least one set of the data acquired from the sensor or one image acquired from the camera and whose rendition are present in the data from the sensor or in the image from the camera is obtained by acquiring at least two sets of data from the sensor or at least two images from the camera, one with the pointing device in view of the sensor or the camera and one without, and comparing the two sets with one another (col. 14, lines 2-17).

As per claim 15, Filo teaches a method for detecting the pointing device wherein adjustments or modifications are made to the position, sensitivity, and other settings of the sensor or the camer pursuant the analysis of the data or image retrieved from the sensor or the camera (col. 17, lines 4-17).

As per claim 16, Filo teaches a method for detecting a pointing device wherein at least part of the procedures for the method is carried out using at least in part the computing mechanism available on one or more of the following: the display, or the sensor or camera, or the

pointing device, or the device producing the signal shown on the display, or the device producing the pointing icon on the display (figs. 1 and 2; col. 6, lines 6-66).

As per claim 17, Filo teaches a method for establishing a mapping between the set of positions that a pointing device can take and the set of corresponding locations on the display comprising defining the range of positions that the pointing device can assume, defining the boundaries of the range of positions that the pointing device can take with geometric representations and transforming the geometric representation of the arrangement of regions on the display so that it fits optimally into the boundaries of the range of positions that the pointing device can take (col. 19, lines 13-67).

As per claims 18-20, Filo teaches a method for establishing a mapping between the set of positions that a pointing device can take and the set of corresponding locations on the display wherein the range of positions that the pointing device may assume is defined by querying the user to point to a set of points on the display and by the boundary contours of the display as they are registered by the sensor or camera wherein at least one special display image is used to establish the mapping between the positions that a pointing device can take and a corresponding locations on the display (col. 12, lines 5-22).

As per claim 21, Filo teaches a method for establishing a mapping between the set of positions that a pointing device can take and the set of corresponding locations on the display wherein at least part of the procedures for the method is carried out using at least in part the computing mechanism available on one or more of the following: the display, or the sensor or camera, or the pointing device, or the device producing the signal shown on the display, or the device producing the pointing icon on the display (figs. 1 and 2; col. 6, lines 6-66).

Claim 22 is similar in scope to claim 11, with the exception that the method is for detecting the display perspective which is inherent when there is already a method for detecting the pointing device in an interactive virtual world environment, and is therefore rejected under similar rationale.

Claim 23 is similar in scope to claim 12 and is therefore rejected under similar rationale.

Claims 24 and 26 in combination is similar in scope to the combination of claims 13 and 14 and is therefore rejected under similar rationale.

As per claim 25, Filo teaches a method for detecting the pointing device wherein the display refers to the range of positions that the pointing device can take (col. 6, lines 32-52; *the range of positions that the pointing device can take is restricted only by the virtual world and its resources*).

Claim 27 is similar in scope to claim 15 and is therefore rejected under similar rationale.

Claim 28 is similar in scope to claim 16 and is therefore rejected under similar rationale.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al. ("Filo", US 6,215,498 B1) in view of Edwards et al. ("Edwards", US 6,459,442 B1).

As per claim 7, Filo teaches a system for interacting with displays and all devices that use such displays comprising a pointing device for entering information into the system and can be used in conjunction with various software applications (col. 7, lines 46-54; col. 8, lines 16-35; col. 10, lines 24-31 and line 57; col. 13, lines 21-25; *information entered into the system further include a clipboard on which a user can draw*). Filo does not explicitly disclose the pointing device to be used to define a vector on the plane of the display that indicates a direction and magnitude relative to or with respect to an item on the display or a region of the display. Edwards teaches a system for interacting with displays wherein the pointing device to be used to define a vector on the plane of the display that indicates a direction and magnitude relative to or with respect to an item on the display or a region of the display (col. 8, lines 12-21). Therefore, it would have been obvious to an artisan at the time of the invention to include Edwards' teaching of a computer aided design tool, wherein the pointing device to be used to define a vector on the plane of the display that indicates a direction and magnitude relative to or with respect to an item on the display or a region of the display, to Filo's teaching of a system for interacting with displays that includes drawing capabilities to provide users with an environment capable of incorporating multiple applications and capabilities to enhance a user's individual task.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al. ("Filo", US 6,215,498 B1) in view of Applicant's Admitted prior art.

As per claim 9, although Filo teaches a system for interacting with displays and all devices that use such displays which also includes a method for sensing the pointing device's position relative to the position of a pointer icon on the display (col. 7, lines 1-19), Filo does not explicitly disclose the system to include a method for correcting the offsets between the position

of the pointing device, or reflection, or effect thereof on the display as observed by the user or by the sensor or the camera, and the position of the pointer icon on the display. However, Applicant's admitted prior art teaches a system for interacting with displays and all devices that use such displays to include a method for correcting the offsets between the position of the pointing device, or reflection, or effect thereof on the display as observed by the user or by the sensor or the camera, and the position of the pointer icon on the display (page 21, lines 6-9). Therefore, it would have been obvious to an artisan at the time of the invention to include Applicant admitted prior art's teaching of a system for correcting the offsets between the position of the pointing device and the position of the pointer icon on the display to Filo's method of a system for sensing the pointing device's position relative to the position of a pointer icon on the display in order to reduce the margin of error concerning the position of the pointing device and the position of the pointer icon on the display.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Summer et al. (US 5,886,818) teach multi-image compositing.

Araki (US 5,512,919) teaches three-dimensional coordinates input apparatus.

Walker et al. (US 6,452,584 B1) teach a system for data management based on hand gestures.

Braun et al. (US 6,133,944) teach head mounted displays linked to networked electronic panning cameras.

Latypov et al. (US 6,563,489 B1) teach a system for placing a subject into virtual reality.

Madrane et al. (US 6,573,907 B1) teach a network distribution and management of interactive video and multi-media containers.

Lection et al. (US 6,091,410) teach avatar pointing mode.

Cqerniecki (US 5,917,476) teaches cursor feedback text input method.

***Inquires***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lê Nguyen whose telephone number is **(703) 305-7601**. The examiner can normally be reached on Monday - Friday from 5:30 am to 2:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid, can be reached on (703) 308-0640.

The fax numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 [After Final Communication]

(703) 746-7239 [Official Communication]

(703) 746-7240 [For status inquiries, Draft Communication]

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Lê Nguyen
Patent Examiner
June 24, 2003

SY D. LUU
PRIMARY EXAMINER